

#4

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION EXAMINING OPERATIONS

Applicant: Dipankar SEN

Group Art Unit:

Serial No: 10/507,387

Examiner:

Filed : 3 November 2003

Title : DNA AND RNA CONFORMATIONAL SWITCHES AS SENSITIVE
ELECTRONIC SENSORS OF ANALYTES

**INFORMATION DISCLOSURE STATEMENT
IN ACCORDANCE WITH 37 CFR § 1.97**

1600 ODS Tower
601 S.W. Second Avenue
Portland, OR 97204-3157

May 5, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant submits herewith a copy of respective
patents of which he is aware and which he desires to have
considered by the Patent Office in accordance with 37 CFR
§ 1.97.

In accordance with 37 CFR § 1.97(h), the filing of
this Information Disclosure Statement will not be regarded as
an admission that any references or combination of references
referred to herein is, or is considered to be, material to
patentability under 37 CFR § 1.56(b) unless specifically
designated as such.

A listing of the enclosed references is enclosed herewith on one or more pages of Form PTO/SB/08a. Applicant would respectfully request that the Examiner initial this form, where indicated, and return an acknowledgement copy to the applicant to confirm that the listed references were received and considered. The relevance of the references herein cited is described in the Background section of the originally filed application.

The person making this statement is the attorney who signs below on the basis of information supplied by the inventor and information in his files.

Respectfully submitted,



Charles D. McClung
Reg. No. 26,568
Attorney for Applicant
Telephone: (503)227-5631

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 5, 2005.

Dated: May 5, 2005



Charles D. McClung

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Sheet 1

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Complete if Known

Application Number	10/507,387
Filing Date	09/10/04
First Named Inventor	Dipankar SEN
Art Unit	
Examiner Name	
Attorney Docket Number	CDM/2353.0010

U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
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Attorney Docket Number CDM/ 2353.0010

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		GIESE, BERND - Long-Distance Charge Transport in DNA The Hopping Mechanism - Acc. Chem. Res. 2000, 33, 631-636 - Department of Chemistry, University of Basel, St. Johanns-Ring 19, CH-4056 Basel, Switzerland	
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		HALL, DANIEL B. and BARTON, JACQUELINE K. - Sensitivity of DNA-Mediated Electron Transfer to the Intervening -Stack: A Probe for the Integrity of the DNA Base Stack - J. Am. Chem. Soc. 1997, 119, 5045-5046 - Division of Chemistry and Chemical Engineering, California Inst. of Tech., Pasadena, CA 91125			
		RAJSKA, SCOTT R.; and BARTON, JACQUELINE K. - How Different DNA-Binding Proteins Affect Long-Range Oxidative Damage to DNA - Biochemistry 2001, 40, 5556-5564 - Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA 91125			
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		PORATH, DANNY; BEZRYADIN, ALEXEY; de VRIES, SIMON; and DEKKER, CEES - Direct Measurement of Electrical Transport Through DNA Molecules - <u>Letters to Nature</u> 2000 Macmillan Magazines Ltd. - Dept. of Applied Sciences, Delft University of Technology, 2628 CJ Delft, The Netherlands				
		FINK, HANS-WERNER and SCHOENBERGER, CHRISTIAN - Electrical Conduction Through DNA Molecules - <u>Letters to Nature</u> , 1999 Macmillan Magazines Ltd. - Institute of Physics, University of Basel, Klingelbergstrasse 82, CH-4056 Basel, Switzerland - Vol. 398, 04/01/99				
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		HALL, DANIEL B., et al. - Oxidative DNA Damage Through Long-Range Electron Transfer - <u>Letters to Nature</u> - Nature, Vol. 382, August 22, 1996 - Division of Chemistry and Chemical Engineering, CA. Inst. of Technology, Pasadena, CA 91125				
		NUNEZ, MEGAN E. - Long-Range Oxidative Damage to DNA: Effects of Distance and Sequence - <u>Research Paper</u> - Division of Chemistry and Chemical Eng., CA Inst. of				
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		(con't.) Technology, Pasadena, CA 91125				
		BIXON, M., et al. - Long-Range Charge Hopping in DNA - PNAS, October 12, 1999, Vol. 96, No. 21, pp. 11713-11716 - School of Chemistry, Tel Aviv Univ., Ramat Aviv, Tel Aviv 69978, Israel				
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		GOLD, LARRY, et al. - Diversity of Oligonucleotide Functions - Annu. Rev. Biochem. 1995. 64:763-97				
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		AICH, PALOK, et al. - M-DNA: A Complex Between Divalent Metal Ions and DNA Which Behaves as a Molecular Wire - J. Mol. Biol. (1999) 294, 477-485 - Article No. jmbi. 1999.3234				

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		PEATTIE, DEBRA A. - Direct Chemical Method for Sequencing RNA - Proc. Natl. Acad. Sci. USA, Vol. 76, No. 4, pp. 1760-1764, April 1979 <u>Biochemistry</u> - Department of Biochemistry and Molecular Biology, Harvard University, Cambridge, Massachusetts 02138	
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		HUIZENGA, DAVID E., et al. - A DNA Aptamer That Binds Adenosine and ATP - Biochemistry 1995, 34, 656-665 - 1995 American Chemical Society	
		LIN, CHIN H. and PATEL, DINSHAW J. - Structural Basis of DNA Folding and Recognition in an AMP-DNA Aptamer Complex: Distinct Architectures But Common Recognition Motifs for DNA and RNA Aptamers	
		Complexed to AMP - Cellular Biochemistry and Biophysics Program, Memorial Sloan-Kettering Cancer Center, New York, NY 10021	
		ODOM, DUNCAN T., et al. - Robert Charge Transport in DNA Double Crossover Assemblies - Research Paper - Chemistry & Biology 2000, 7:475-481 - Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA 91125	
		TELSER, JOSHUA - DNA Duplexes Covalently Labeled at Two Sites: Synthesis and Characterization by Steady-State and Time-Resolved Optical Spectroscopies - J. Am. Chem. Soc. 1989, 111, 7226-7232 - 1989 American Chemical Society	

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		Author Unknown - Amine-Reactive Probes -		
		Molecular Probes - Product Information - Revised: 12/08/03		
		HALL, DANIEL B., et al. - Oxidative DNA Damage Through Long-Range Electron		
		Transfer - Letters to Nature - Nature, Vol. 382, 08/22/96 - Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena, CA 91125		
		NUNEZ, MEGAN E; HALL, DANIEL B.; and BARTON, JACQUELINE K. - Long-Range Oxidative Damage to DNA: Effects of Distance and Sequence - Research Paper, Chemistry & Biology, February 1999, 6:85-97		

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		GRINSTAFF, MARK W. - <i>How Do Charges Travel Through DNA? - An Update on a Current Debate - Highlights</i> , Angew. Chem. Int. Ed. 1999, 38, No. 24 - WILEY-VCH Verlag GmbH, D-69451 Weinheim, 1999	
		SAITO, ISAO - <i>Mapping of the Hot Spots for DNA Damage by One-Electron Oxidation: Efficacy of GG Doublets and GGG Triplets as a Trap in Long-Range Hole Migration</i> - J. Am. Chem. Soc. 1998, 120, 12686-12687 - 1998 American Chemical Society	

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13

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Application Number	10/507,387
Filing Date	09/10/04
First Named Inventor	Dipankar SEN
Art Unit	
Examiner Name	

Attorney Docket Number

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		WELLINGER, R. J. and SEN, D. - <i>The DNA Structures at the Ends of Eukaryotic Chromosomes</i> - European Journal of Cancer, Vol. 33, No. 5, pp. 735-749, 1997	
		SIMONSSON, TOMAS - <i>G-QUADRUPLEX DNA STRUCTURES - VARIATIONS ON A THEME</i> - Biol. Chem., Vol. 382, pp. 621-628, April 2001, Medical Research Council, Laboratory of Molecular Biology, Hills Road, Cambridge CB2 2QH, UK	
		GIESE, BERND, et al. - <i>Direct Observation of Hole Transfer Through DNA By Hopping Between Adenine Bases and By Tunnelling</i> - Letters to Nature, Nature, Vol. 412, July 19, 2001 Macmillan Magazines Ltd.	

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		SZALAI, VERONIKA A. and THORP, H. HOLDEN <i>Electron Transfer in Tetrads: Adjacent Guanines Are Not Hole Traps in G. Quartets</i> - 2000 American Chemical Society - Dept. of Chemistry, Univ. of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3290
		WANG, YONG, et al. - <i>RNA Molecules That Specifically and Stoichiometrically Bind Aminoglycoside Antibiotics with High Affinities</i> - <i>Biochemistry</i> 1996, 35, 12338-12346, 1996 American Chemical Society - Dept. of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, 250 Longwood Avenue, Boston, Massachusetts 02115
		MAO, CHENGDE, et al. - <i>A Nanomechanical Device Based on the B-Z Transition of DNA</i> - <i>Letters to Nature</i> , Nature, Vol. 397, January 14, 1999 - 1999 Macmillan Magazines Ltd.

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